Collective property belongs to the state, to a village or a community. The present legislation provides that all water be owned by the state. Villages, however, also possess hydraulic resources. Occasionally a community is the sole owner of a spring or a water course, while in other cases such ownership is divided among neighboring communities. Old local customs which vary according to regions and communities regulate the distribution of such waters. 312 421

Water Distribution

Among Members of the Same Community

If water is abundant with respect to the surface to be irrigated, each user takes what he needs with little consideration for his neighbor. The only limit set up by custom is that the water level on the irrigated surface may not exceed ankle height.

If the flow of water is insufficient with respect to the size of the land to be irrigated, the regulation becomes more complicated. In the rare case where custom does not apply, everyone protects his crops against drought as well as he can. Generally, however, custom guarantees every plot of land a portion of that quantity of water used by the community and which may vary during the year. This portion consists of water taken from a spring or a canal and supplied during a certain period of time (every week, every fortnight, etc.) according to the duration of the rotation period (addâne) which varies, according to the localities, between seven and 32 days.

Time Calculations

The methods of calculating time vary from region to region. Watches, sun dials and hour glasses (keilé) are used. At Kariattein the rotation period (addâne) lasts 15 days, and water agreements are concluded in "Roman hours." These correspond to three hours and are divided into 40 missriyes. The missriyé corresponds to four minutes and thirty seconds. 312 805

In Habeck Ghouta there are two water turns, one during the day and the other at night. The entire rotation period lasts twelve days. Water portions are calculated in "local"

312 hours, that is the twelfth part of an addâna. During the
●805 equinox, the local day hour is equal to the local night hour and corresponds to a 60 minute flow of water. In winter, however, the local hour is equivalent to more than three and one-half night hours and to less than two and one-half day hours.

In Damascus Ghouta water distribution is particularly complicated.

Water Policy

312 A very strict discipline generally rules water diversions for gardens. The communities elect a "water master," generally the moukhar who has administrative functions in the village and who is assisted by water guards called ghaouis. These latter supervise the draining system, control the barrages and make certain that no owner abuses his water rights.

Among Different Villages

312 Such distribution is accomplished in numerous ways. Occa-
621 sionally each village uses the water according to its own wishes without considering the damage possibly caused to the villages downstream. Such is the case with the water of the El-Awadj (Wadi el-Ajam) near Damascus. Here an enormous amount of water is lost to the villages downstream because of the intense evaporation in summer and the infiltrations into the basaltic regions upstream. The same thing occurs in the villages of Khasrajié and Makroussa.

In other cases, custom assigns the whole or part of the water to each village during a certain period only. In such cases a rotation period is set up between the villages similar to that within the communities. Thus, the water of the Mnin is assigned for four days to Mnin, six days to Tell, one day to Hourné and four days to Barzé.

Modern Water Distribution

312 Water is distributed with mathematical precisioness only in
804 those regions which are being irrigated according to modern irrigation plans. Territories thus irrigated with the water of the Orontes are those in the communities north of Homs such as Dousir, Deir Béalbé, etc.

Since water supplies are precisely known and are constant throughout the year due to the regulating barrage of Homs Lake, it is possible to calculate exactly the quantity of water each hectare shall receive. This quantity is established at 0 liters 20 seconds per hectare. 312 804

The total rotation period consists of seven days, and each hectare of irrigated land receives every week about 01.20 x 60 x 60 x 24 x 7 or 121 m^3. More detailed sub-divisions are foreseen. The irrigation service determines the duration of the water turns. The official time is that shown by the town hall clock of Homs. This system, however, is complex and needs a qualified staff of engineers, controllers and canal guards. It is still the exception in Syria.

Water Rights in Palmyra

The district of Palmyra receives its water from deep thermal and surface springs. The water is transported by underground canals (foggaras) which have existed since Roman times and which are necessary to prevent evaporation due to the dryness of the air at Palmyra. They vary from two to six kilometers in length. 312

Water Distribution

This is on a time basis, rotation turns depending on the supply, the number of gardens which are to be watered and the number of persons entitled to water. In Palmyra the turns vary from 12 days in the summer to 18 days in the winter. 312 805

Water Rights

These may be sold. The origin of the water titles is lost in history due to the antiquity of the hydraulic works. 312 423

Since there was no effective government during the last century, water became the property of third parties independently of land ownership. Toward the end of the century the government received no taxes from Palmyra and ceded the main thermal spring to a certain El-Hissuan of the Sued family who lived at Homs and to whom persons drawing water paid 80 piasters per hour of watering. For a long time, water rights were the only type of communal property and

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measured the financial well-being of the community.

The number of owners of water rights increased in the course of time as the conveyance of titles and the inheritance of rights increased. By 1922, two-thirds of the village owned water rights, with the remaining one-third having to purchase such rights.

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In 1923, according to G. Carle, 1/ the time turns were calculated by means of an hour glass which required almost one hour (actually 52 minutes) to empty, a special person being appointed to calculate the time of the turns.

TUNISIA

Water Rights at Tozeur 2/

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This oasis derives its water from one wadi and two springs. The water is first divided by a horizontally-placed trunk of a palm tree laid perpendicular to the current and notched with markings equal in number to the desired divisions of water. Further subdivisions are made for secondary redistribution. These vary greatly in number because they can be changed by arrangements made between the persons entitled to water rights following the sale, exchange or inheritance thereof. Only the main divisions of the wadi water turns, up to the twenty-first turn, are fixed, and they are the basis of the entire water distribution system.

Water Distribution

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The system used is based on a time schedule. The unit of time for the distribution (gadous) corresponds to the time required for a vase full of water, pierced with holes at the bottom, to be emptied (five minutes or one-twelfth of an hour). The hour is also often calculated from the length of a man's shadow which is measured in feet.

1/Carle, G., L'Hydraulique Agricole et Industrielle en Syrie.
2/Masselot, F. "Les Dattiers des Oasis du Djerid." Bulletin de la Direction Générale de l'Agriculture, du Commerce, et de la Colonisation de la Régence de Tunis, pp. 137-142.